

## EXPLANATION OF PLATES.

## PLATE XIII.

- Fig. 1. *Cacama valvata* (Uhler).  
Fig. 2. *Cacama furcata* Davis. Type.  
Fig. 3. *Cacama variegata* Davis. Type.  
Fig. 4. *Cacama variegata* Davis. Allotype.

## PLATE XIV.

- Fig. 1. *Cacama californica* Davis. Type.  
Fig. 2. *Cacama dissimilis* (Distant).  
Fig. 3. *Cacama carbonaria* Davis. Type.  
Fig. 4. *Cacama crepitans* (Van Duzee). Cotype.  
Fig. 5. *Cacama maura* (Distant).

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KEY TO THE NEARCTIC GENERA AND SPECIES OF  
BERYTIDÆ (HETEROPTERA).

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The Berytidæ are an assemblage of small- to medium-sized bugs of slender build. The long filiform antennæ are distinctly elbowed and the head has a definite constriction or transverse sulcus in front of the ocelli. The first joint of the antenna, and the femora are clavate, and the slender legs are more or less thickly beset with short bristles or bristled tubercles. The scutellum is small, leaving the triangular space between the clavi partly open.

In the following treatment of the family descriptions of genera do not repeat the family characters, nor do those of species reiterate the characters of their respective genera. Distribution is not given in detail for the most common and widespread forms. The measurements of total length refer to the body proper, between apices of tylus and elytra, and do not include the antennæ.

It has been the custom to refer to certain metathoracic tubercles of the Berytidæ as breathing-horns, or the equivalent of that term in various languages. It is evident, however, that these organs in their entirety are exact homologues of what are called in all the other groups of Heteroptera possessing them, ostioles with their accom-

panying canals and tubercles; which are believed to be the orifices through which the odoriferous secretions of the bugs are given off. The structure of the ostiole, ostiolar canal and tubercles are of much more importance in the classification of the Berytidæ than has yet been recognized and in this paper the primary division of the family is made upon this structure.

The Berytidæ would appear to be rather far advanced in their evolutionary history, the species not showing very extensive variation, and the number of groups of generic value being large in proportion to the number of species.

For the loan of material used in the preparation of this paper the writer is obliged to Mr. J. C. Crawford, Associate Curator of the Division of Insects, U. S. National Museum, and to Mr. E. P. Van Duzee, of the California Academy of Sciences.

#### KEY TO THE GENERA.

- A. Metathorax with distinct ostiolar canal running (at least as a suture) from coxal cavity to and upon ostiolar tubercle which sometimes is long and spines-like; Berytids with few spines on upper surface of body.
- B. Ostiolar process long, more or less spine-like.
  - C. Ostiolar process long, posteriorly curved and twisted so that ostiolar canal, which channels it to apex, lies at first on outer side, but apically on its upper surface, apex without spine; terminal antennal joint about as long as head; fore coxæ separated by a narrower scarcely sulcate area.
    - Aknisus** n. gen., p. 81.
  - CC. Ostiolar process shorter, less curved, and not twisted, canal entirely on the outer side, apex of process a rather long spine; terminal antennal joint longer than head; fore coxæ separated by a broader distinctly sulcate area.....**Jalysus**, p. 85.
- BB. Ostiolar tubercle low, not at all spine-like.
  - D. Head with a porrect decurved spine; front of thorax unarmed.
    - Neides**, p. 87.
  - DD. Head without spine; front of thorax with an erect sharp spine at each side .....**Protacanthus**, p. 87.
- AA. Metathorax without external ostiolar canal; ostiole small, on apex of the ostiolar tubercle; Berytids with numerous spines on upper surface of body.
  - E. Head with only a single spine or tubercle on middle of vertex; elytra without spines; ostiolar tubercle a low, rounded cone.
    - Pronotacantha**, p. 88.

EE. Head with several strong spines; veins of corium spinose; ostiolar tubercle a short, curved, cylindrical process.

F. Membrane of normal extent; juncture of marginal and terminal veins of corium far cephalad of end of abdomen; veins of corium with a moderate number of fairly strong, curved spines; mesosternum conspicuously tumid.

*Saurocoris* n. gen., p. 89.

FF. Membrane much reduced, juncture of marginal and terminal veins of corium almost over end of abdomen; membrane forming an acuminate terminal appendage of elytron; corium expanded and inflated, its veins with a large number of long, curved spines; mesosternum not at all tumid.

*Acanthophysa*, p. 90.

*Aknisus* new genus.

The diagnostic characters are given in the key; further brief description of the more characteristic features is given, however, as in the case of all the other genera.

Front of vertex with or without more or less pointed tubercles; thorax with distinct callosities, median line somewhat calloused and elevated, sides very low carinate, and region within humeri elevated; scutellum with short sharp almost upright spine; elytra delicate, hyaline, very sparsely punctate; ostiolar process long, posteriorly curved and twisted so that ostiolar canal, which channels it to apex, lies at first on outer side but apically on its upper surface, apex without spine; beak extending slightly beyond middle coxæ; rostral sulcus, scarcely evident on prosternum, fairly wide with rather swollen margins (lacking indentations) on mesosternum, narrowed between middle coxæ, expanding on metasternum into a diamond shaped basin with corresponding broad rounded margin, well marked and percurrent on first abdominal segment.

The type of the genus is *Aknisus calvus* new species. I would select *Hoplinus multispinus* Ashmead as genotype, because of its being the earliest species, were not the standing of that name in controversy.

#### KEY TO THE SPECIES.

Front of vertex with a short, but distinct pointed tubercle.

*multispinus* Ashmead.

Front of vertex without pointed tubercle ..... *calvus* n. sp.

**Aknisus multispinus** Ashmead.

*Hoplinus multispinus* Ashmead, W. H. Hemipterological Contributions (No. 1), Entomologica Americana, Vol. 3, No. 8, Nov., 1887, p. 155 [Florida].

*Jalysus perclavatus* Van Duzee, E. P. Observations on some Hemiptera taken in Florida in the spring of 1908. Bul. Buffalo Soc. Nat. Sci., Vol. 9, No. 2, 1909, pp. 163-4. [Crescent City, Sanford, Tampa and St. Petersburg.] Nomenclatorial and critical notes on Hemiptera, Can. Ent., Vol. 46, No. 11, Nov., 1914, pp. 380-381.

*Jalysus (Hoplinus) multispinosus* Barber, H. G. Descriptions of some new Hemiptera-Heteroptera. JOURN. N. Y. ENT. SOC., Vol. 19, No. 1, March, 1911, p. 24.

*Hoplinus* (?) *multispinus* Van Duzee, E. C. Check List of the Hemiptera . . . of America, North of Mexico, 1916, p. 17, Catalogue, id., 1917, p. 144.

In addition to the characters mentioned in the keys it is necessary only to state that this insect is pale stramineous with eyes, terminal antennal segments, tips of tibiae and tarsi darker, sometimes black. Rarely specimens have irregular dark spots on the thorax. Length 5-6 mm.

Specimens examined are from:

Duval Co., Florida, W. H. Ashmead (type).

Langdon, Mo., Aug. 28, 1901, H. G. Barber.

Clarendon Siding, Kans., July 26, 1891.

Horace, Kans., July 28, 1891.

Wades, Tex., May 22, E. A. Schwarz; Dallas, Tex., Sept. 8, 1906, Sept. 23, 1911; Brewster Co., Tex., June 13-17, 1908.

San Antonio, Tex., H. Osborn. All specimens to this point in National Collection.

St. Petersburg, Fla., April 28, 1908, E. P. Van Duzee. Paratype of *Jalysus perclavatus* in collection of E. P. Van Duzee.

Citations in the synonymy indicate that the systematic position of this species has been the subject of controversy. The original description was poor and the original generic reference to *Hoplinus* Stal inexcusable. At the same time it must be said that Stal's description of *Hoplinus*<sup>1</sup> is very generalized and by no means fits the insect he makes the genotype, namely *Neides spinosissimus* Signoret.<sup>2</sup> The latter is described as having a large number of spines on head,

<sup>1</sup> Stal, C., Enumeratio Hemipterorum, 4, 1874, p. 127. ' '

<sup>2</sup> Signoret, V., Revision des Hemipteres du Chile, Ann. Soc. Ent. de France, 4th Ser., Vol. 3, 1863, p. 555.

thorax and elytra, with a score for instance along the outer border of each elytron.

With respect to this latter point Stal misread the original description and by inserting in his generic diagnosis "margin of abdomen spinose" has misled others. What Signoret really says in the original description is: "Elytra having on the longitudinal veins of the corium and along the outer margin a large number of spines; with respect to the latter one observes, at least a score which, viewing the insect from above, appear to pertain to the abdomen, but which in reality belong to the outer border of the elytra."

The connexivum, therefore, is unarmed, not long-spinose as stated by Van Duzee<sup>3</sup> in his remarks objecting to Barber's allocation<sup>4</sup> in *Jalysus* of Ashmead's *Hoplinus multispinus*.

Let us take Ashmead's description in connection with the type specimen which is still in existence and see whether the species is identifiable. The original description is herewith reproduced:

"Length .20 inch. Pale yellowish brown, tarsi and terminal antennal joint, black. Head armed with three spines, one median on a line with base of antennæ, prominent but blunt, and one on each side just back of antennæ. There is a prominent acute spine at base of scutellum, two short sharp spines at tip of abdomen, and one on each pleura, extending and slightly curving over at base of elytra. Prothorax long, narrowed before, more than twice the length of the width at base, punctured, with a slight median carina, the narrow transverse portion just before the middle impunctured. The legs are long and thin, the posterior femora reaching beyond the tip of the abdomen."

Discussing this description, it must be admitted at once that the notes on color and structure of the antennæ, thorax and legs bring out nothing to prevent the insect being considered a *Jalysus* (as heretofore understood). There remains as a bone of contention, only the spines. Ashmead misunderstood or gave little heed to the characters of *Hoplinus* as derived from the description of the genotype, and subsequent writers have scarcely improved upon his attitude. In his description of *multispinus* Ashmead's statement that there is a spine

<sup>3</sup> Can. Ent., Nov., 1914, p. 381.

<sup>4</sup> JOURN. N. Y. ENT. SOC., 19, 1911, p. 24.

[the ostiolar tubercle] on each pleura, extending [to] and slightly curving over at base of elytra, indicate that the insect before him was a *Jalysus*, unless indeed we divide that genus, as here done.

The two short, sharp spines at tip of abdomen are merely the acute angles of the broadly emarginate terminal segments. The scutellar spine is characteristic of *Jalysus*, and the prominent but blunt spine between bases of antennæ marks the species under consideration, whether we call it *multispinus* or *perclavatus*.

There remains but one difficulty, and that the only real one in harmonizing Ashmead's species with the genus *Jalysus* (as heretofore understood) and identifying it with *J. perclavatus* Van D. This is the alleged presence of a spine on each side of head just back of antenna. In my opinion Ashmead described the antenna from a single entire one, and the "spine" from the broken base of the other. There is present on the type such a broken base which might be mistaken for a spine.

A poor piece of work, admittedly, but when has this fault been given weight in discussions of nomenclatorial matters? If it were, hundreds of names now accepted would go by the board, and even the foundation of all our nomenclature would be shattered, for judged by present standards the definitions of Linnæus are very indiscriminating. Ashmead's chief fault in launching his *multispinus* was one still too common, namely that of trying to stretch the definition of an existing genus to cover the new form in hand, regardless of violence done.

This case emphasizes an aspect of the description of new forms that is seldom dwelt upon. That is, credit and honor for a discovery are not the most important things connected with naming a new group. On the contrary, it must be borne in mind that responsibility for launching the new form or group and for adequately characterizing it is great, and that this phase of the work cannot be slighted without detriment to science and to the good standing of the describer. Thus under the workings of priority rulings, although imperfect and unworthy work seemingly is elevated, poetic justice is done by making the authors of poor, insincere or pirated work responsible for all of their discreditable brood. Every subsequent author who works over their product sees its faults, and the fact that an individual's name follows a long list of names of organisms by no



means indicates a glorious position in the galaxy of science; it may be just the reverse. In taxonomic work as elsewhere quality counts.

**Aknisus calvus** new species.

This species has the same type of ostiolar process as *A. multispinus*, with which, chiefly on that account, it is associated in a new genus. The present species is similar to *A. multispinus* throughout except that front of vertex is smoothly rounded over, there being no indication of a frontal tubercle. Length 6-7 mm.

Two specimens in National Collection, one from Modesto, Calif., March 31-April 1, 1910, H. Osborn, and one from Lindsay, Calif., July 13, 1909, W. A. Davidson, of which the former is the type.

#### **Jalysus Stal.**

*Jalysus Stal.*, C. Bidrag till Rio Janeiro-Traktens. Hemipter-Fauna, Pt. 2, 1862, p. 59. [Included species, *sobrinus*, *tenellus* and *macer* Stal; the latter is the genotype.]

Front of vertex with or without spine;<sup>5</sup> thorax with distinct callosities; sides and median line very low carinate and area within humeri elevated; scutellum with short, sharp, posteriorly inclined spine; elytra spineless, corium not conspicuously punctate; ostiolar process shorter, less curved, and not twisted, canal entirely on the outer side, apex of process a rather long spine; beak nearly or quite attaining hind coxæ; no indication of rostral position on underside of head; sulcus beginning at middle of prosternum, narrow and shallow between fore coxæ; much widened on mesosternum, flanked on each side by 5-6 indentations, abruptly contracted as it passes between middle coxæ, then widened again on metasternum, but not attaining width of part anterior to coxæ, the whole meso- and metasternal parts of sulcus with distinct, carinate edges; sulcus fairly well developed on first abdominal segment, percurrent, with broad flat longitudinally wrinkled margins.

#### KEY TO THE SPECIES.

- Front of vertex with a long, sharp, sometimes decurved spine; scutellar spine depressed, almost horizontal ..... **elongatus** Barber.  
 Front of vertex without spines, scutellar spine inclined at an angle of 45 degrees ..... **spinus** Say.

<sup>5</sup> The front of vertex in *Jalysus* exhibits considerable variation in structure, which, however, has not been found to be related to the place of collection of specimens, or otherwise available for taxonomic purposes.

***Jalysus elongatus* Barber.**

*Jalysus elongatus* Barber, H. G., JOURN. N. Y. ENT. SOC., Vol. 19, No. 1, March, 1911, pp. 23-24 [Huachuca Mts., Ariz.].

This species is light buff in color, with only the eyes, terminal antennal joints and tarsi dark. The median line and edges of pronotum are slightly raised, calloused and pale. Pronotum rather more elevated within humeral angles than in *J. spinosus*, abdomen considerably surpassing wings. Length 8 mm.

One specimen examined, a paratype, from Huachuca Mts., Ariz., July 8, 1905, H. G. Barber (U. S. Nat. Mus.).

***Jalysus spinosus* Say.**

*Berytus spinosus* Say, Thomas. American Entomology, Vol. I, 1824, pp. 28-9.

The complete writings of Thomas Say on the Entomology of North America, Vol. 1, 1859, pp. 28-9. [No locality mentioned.]

This species is distinguished from all others in the United States by having the ostiolar process tipped with a distinct spine.

General color, yellow-brown, with last antennal joint except its base and apex, eyes, apex of corium, tips of tarsi, and sometimes irregular spots on thorax, and longitudinal vittæ on venter, fuscous to black. Length 7-9 mm.

Inhabits Eastern North America from Louisiana and Florida north to Ontario and Quebec.

***Jalysus spinosus* subspecies *wickhami* Van Duzee.**

*Jalysus wickhami* Van Duzee, E. P. New North American Heteroptera, Ent. News., Dec., 1906, pp. 387-8. [Inyo Mts., Calif., Tucson, Ariz.]

From Nebraska and Texas to British Columbia and California occurs a race of *Jalysus spinosus*, for which the name *wickhami* is available. This form usually is of slighter stature than the eastern subspecies; the ostiolar process is shorter and its terminal spine less conspicuous; the front of vertex is more prominent, often forming a distinct tubercle; and the terminal antennal joint is noticeably shorter. Perhaps any of these characters may be observed in an occasional eastern specimen, but in combination they characterize western representatives of the species and justify their recognition as a geographical race, or subspecies.

Through the kindness of Mr. E. P. Van Duzee a paratype of this form from the Inyo Mts., Calif., has been examined.



*Neides* Latreille.

*Neides* Latreille, P. A. Histoire Naturelle, générale et particulière des Crustacés et des Insectes. III, 1802, p. 246. [Examples: *Gerris tipularius* Linnaeus; *clavipes* Fabricius, the former later selected as type.]

Head with vertex produced into a pointed process strongly deflexed over front; thorax without spines, the margins and median line more or less carinate and slightly elevated behind; scutellum without spine; elytra without spines, clavus and corium strongly punctate; ostiolar canal gently curved posteriorly, broader toward apex, which is only slightly tuberculate; beak nearly or quite reaching middle coxæ; underside of head not grooved, but position of beak marked off by a heavy line of coarse hair-like pollinosity, which margins the whole rostral sulcus and spreads more or less over the whole pectus; rostral sulcus narrow, faint on prosternum, deep and most distinct on mesosternum, constricted between and behind middle coxæ, expanding again at posterior border of metasternum; on first abdominal segment short, shallow and evanescent posteriorly.

*Neides muticus* Say.

*Berytus muticus* Say, Thomas. Descriptions of new species of Heteropterous Hemiptera of North America. New Harmony, Ind., Dec., 1831, p. 13. Complete Writings, Vol. 1, 1839, p. 328. [Northwest Territory.]

*Neides gracilipes* Stal, C. Hemiptera Species novas descripsit. Kongliga Svenska Fregatten Eugenies Resa Omkrin Jörden, I. Insecta, pp. 235-6, 1859. [San Francisco, Calif.]

*Neides decurvatus* Uhler, P. R. Notices of some Heteroptera in the collection of Dr. T. W. Harris. Proc. Boston Soc. Nat. Hist., XIV, p. 100, 1871. [Dublin, N. H.] Type examined.

To the generic description, it is only necessary to add that this species is stramineous in general color, with terminal antennal joints, eyes, underside of thorax, tips of tibiæ and tarsi darker, sometimes black. Length 8-10 mm.

*Neides muticus* ranges from Quebec and British Columbia south to New Jersey, in the mountains to Georgia, and to Ohio, Kansas, Arizona and California. A specimen in the National Collection is labelled Duval Co., Fla., but this record would seem to need corroboration.

*Protacanthus* Uhler.

*Protacanthus* Uhler, P. R. A list of the Hemiptera-Heteroptera collected in the Island of St. Vincent by Mr. Herbert H. Smith: with Descriptions of

New Genera and Species. Proc. Zoöl. Soc. London, pp. 707-8, Nov. 21, 1893. [Monobasic, *P. decorus* n. sp. genotype, p. 708.]

Head rotund, smooth, shining; thorax: anterior margin raised in a ridge which is produced at each side into a straight nearly upright spine; sides and median line low carinate; humeral angles and end of median carina slightly prominent; scutellum with a long, curved slightly retrorse spine; elytra entirely hyaline without spines; ostiolar canal rather strongly curved posteriorly then anteriorly near apex, which from above appears as a short, abruptly pointed tubercle. Poor condition of material prevents descriptions of beak and rostral sulcus.

**Protacanthus decorus** Uhler.

*Protacanthus decorus* Uhler, P. R. Citation as under genus, p. 708. [St. Vincent Id., West Indies.]

*Metacanthus capitatus* Uhler, P. R. On the Hemiptera-Heteroptera of the Island of Grenada. Proc. Zoöl. Soc. Lond., p. 181, March 6, 1894. [Grenada.]

*Metacanthus decorus* Distant, W. L. Rhynchotal Notes, IX. Heteroptera: Fam. Coreidæ. The Annals and Magazine of Natural History, 7th Ser., Vol. 7, p. 430, May, 1901.

Uhler's description of this species in two different genera in successive years is hard to understand. Notwithstanding his later assignment of the species to the genus *Metacanthus*, supported by similar action by Distant, if we can rely on Fieber's description<sup>6</sup> of that genus, this species does not belong to it. I have been unable to consult the original description of *Metacanthus* by Costa.<sup>7</sup>

To the generic description it need only be added that this species is stramineous in general color, most of the head, and terminal antennal joints being black, and the femora spotted, the tibiæ banded and the tarsi tipped with fuscous to black. Length 4 mm.

Occurs in southern Florida.

**Pronotacantha** Uhler.

*Pronotacantha* Uhler, P. R. Hemiptera-Heteroptera of the Death Valley Expedition. N. A. Fauna, No. 7, 1893, p. 260. [Monobasic, *P. annulata* n. sp., pp. 260-1, genotype.]

Head rotund, polished, with a single short, rounded protuberance or caruncle at middle of vertex; thorax with about 17 strong, curved

<sup>6</sup> Fieber, F. X., Die Familie der Berytidae, Wiener Ent. Monats., III, No. 7, July, 1859, p. 209. Die europäischen Hemiptera, pp. 213-4, 1860.

<sup>7</sup> Atti Acad. Napoli, 1848, p. 258.

spines, the tendency of which is to point away from center; only 2 on anterior lobe; front margin of thorax with 7 small ovoid caruncles; scutellum with a very long curved retrorse spine; entire elytra hyaline, without spines; ostiole small, on summit of a rounded conical tubercle; beak extending between hind coxæ; rostral sulcus distinct on prosternum, but shallow, broad with swollen margins on mesosternum, constricted between middle coxæ, expanded on metasternum, shallow, almost flat; of same nature on first abdominal segment, evanescent posteriorly.

**Pronotacantha annulata** Uhler.

*Pronotacantha annulata* Uhler, P. R. Citation as under genus, pp. 260-1. [Argus Mts., Calif.; Ariz.]

In this species the caruncles and spines are pale, the latter sometimes dark-tipped; the head is black, also the thorax except for anterior half of posterior lobe; the elytra stramineous hyaline with faint brownish clouds, and the abdomen stramineous to reddish; antennæ and legs copiously brownish annulate (bands over expanded portions broader), terminal joint of former and tarsi mostly blackish. Length 2.5-4 mm.

Specimens examined are from Williams, Ashfork, Hot Springs, Flagstaff, Bright Angel, Tuscon, and the Galiuro and Huachucha Mts., Ariz., from Mesilla Park, N. Mex., Palm Springs, and Argus Mts., Calif. (the latter the type).

**Sauroccris** new genus.

Head with 5 antrorse curved spines along median line, decreasing in size anteriorly, the foremost projecting horizontally over base of beak; knobs and spinules elsewhere, a prominent one behind each antenna; low, interrupted carinæ behind the above eyes; thorax with slender spines on front, lateral margins, and in three lines (one the median carina) on disk, all antrorsely directed except those on hind part of posterior lobe which are either erect or retrorse; mesosternum greatly swollen, mesothorax in general with only fine punctures, sides of head and pleuræ with few or no spines; scutellum with a single, straight, sharp, slender, retrorsely inclined spine; median vein of clavus and all veins of corium with numerous short, curved retrorse spines; juncture of marginal and terminal veins of corium far cepha-

lad of end of abdomen; membrane ample without spines, delicate, hyaline; ostiole minute, at apex of short recurved, rather blunt ostiolar process; beak somewhat surpassing middle coxæ; rostral sulcus first evident on mesosternum where it is broad, rather shallow and bounded by the tumid lateral portions of the sclerite, narrowed between middle coxæ, then almost regaining its width on metasternum, deep, distinctly margined; broader, rather deep and definitely margined on first abdominal segment; venter with rows of tubercles and small spines across segments.

Genotype, *Saurocoris instans* new species.

*Saurocoris instans* new species.

Structural characters as noted in keys and in description of genus. General color stramineous, some specimens almost wholly so, others with head except antennal insertions, and region back of ocelli and anterior lobe of thorax except disk, black; antennæ and legs copiously annulate (bands over expanded portions broader) with fuscous to black; terminal joint of former and tarsi black; venter stramineous. Length  $3-3\frac{1}{2}$  mm.

Nymphs, apparently in the last instar have the antennæ and legs marked as in adults, the general color shining reddish stramineous. The median series of large spines on head is about as in adult, but remainder of head and upper surface with numerous round tipped spines, in strong rows across dorsal surface of abdomen.

Type from California, probably Los Angeles Co., collected by D. W. Coquillett. Other specimens are from that county, April (nymphs and adult); and Folsom, Calif., July 8, 1885. All in U. S. National Museum.

#### *Acanthophysa* Uhler.

*Acanthophysa* Uhler, P. R. Hemiptera-Heteroptera of the Death Valley Expedition. N. A. Fauna, No. 7, 1893, p. 261. [Monobasic, *A. echinata* n. sp., p. 261, genotype.]

Head with five antrorse curved spines along median line, decreasing in size anteriorly, the foremost strongly projecting over base of beak; tubercles and spinules elsewhere, a prominent one behind each antenna, and low, continuous carinæ both behind and above eyes; thorax with strong spines on front and lateral margins and in three lines on disk, the tendency of all the spines being to project away from the center; mesosternum not at all swollen, mesothorax very coarsely punctured; sides of head, basal joint of beak and pleuræ more or less bristly spinose; scutellum with a long, sharp,

curved spine; median vein of clavus and all veins of corium beset with numerous strong, curved retrorse spines; juncture of marginal and terminal veins of corium almost over end of abdomen; membrane reduced to a narrow strip along inner side of wide, inflated corium and forming a curved acuminate terminal appendage with three raised veins; ostiolar process tubular, slightly curved posteriorly, obliquely truncate; venter with many rows of bristled tubercles; beak almost or quite attaining hind coxæ; rostral sulcus scarcely evident on prosternum, deep, in some cases, almost pit-like on mesosternum, narrowed between middle coxæ, then almost regaining its anterior width and depth on metasternum, broader and shallower on first abdominal segment; with distinct raised margin throughout.

*Acanthophysa echinata* Uhler.

*Acanthophysa echinata* Uhler, P. R. Citation as under genus. [Argus Mts. and Los Angeles, Calif.]

General color stramineous, spines more yellowish; antennæ indistinctly brownish annulate, terminal joint black; femora indistinctly spotted, the enlarged apex covered by a broad fuscous band; tibiæ annulate, tarsi mostly dark. Length 3-4 mm.

Specimens examined are from San Bernardino and Argus Mts. (the type), Calif., and Las Vegas, Hot Springs, N. Mex.

A specimen from Los Angeles Co., Calif., has the elytra proportionally narrower than in the typical form and the membrane a trifle more developed though retaining the characteristic shape. This specimen differs from all the others also in having the dark markings very distinct, resembling in this respect the preceding species.

It is barely possible that *Saurocoris instans* is the macropterous state of *Acanthophysa echinata*, but until this is demonstrated by field or breeding studies, I prefer to treat the forms as here done. The present arrangement is justified by the characters of the specimens at hand, and the other course could only be taken by guess. Risking possible creation of synonyms, which can easily be assigned to their proper places when the whole truth is known, is better than publishing misidentifications which once established in the literature are almost ineradicable.

The true characters of the genus *Hoplinus* Stal ascertained from the description of the type species *Neides spinosissimus* Signoret

(see discussion, pp. 82, 83) indicate that genus to be very closely related to *Acanthophysa* and *Saurocoris*. It is possible that one or the other [or both as suggested above] may prove to be synonyms of *Hoplinus*. The original description of the genotype, although good, does not give the information necessary to decide the matter. It is worth pointing out with respect to this possible identity of Chilean and Californian genera that examples of similar geographic distribution are not lacking. Several species of plants, for instance, are known to be common to the western coast regions of North and South America.

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## COLEOPTERA COLLECTED AT COCHRANE, NORTH-ERN ONTARIO, AUGUST 22-30, 1918, WITH DESCRIPTIONS OF SIX NEW SPECIES.

BY HOWARD NOTMAN,

BROOKLYN, N. Y.

### CICINDELIDÆ.

- Cicindela longilabris* Say. 6 specimens.  
*Cicindela limbalis* Klug. 2 specimens.  
*Cicindela tranquebarica* Hbst. 52 specimens.  
*Cicindela 12-guttata* Dej. 24 specimens.

### CARABIDÆ.

- Nomaretus bilobus* Say. 1 specimen.  
*Elaphrus ruscarius* Say. 1 specimen.  
*Notiophilus semistriatus* Say. 1 specimen.  
*Dyschirius œneolus* Lec. 6 specimens.  
*Bembidium nitidum* Kby. 14 specimens.  
*Bembidium concolor* Kby. 1 specimen.  
*Bembidium bimaculatum* Kby. 1 specimen.  
*Bembidium scopulinum* Kby. 53 specimens.  
*Bembidium grapei* Gyll. 37 specimens.  
*Bembidium lengi* n. sp. 1 specimen.  
*Bembidium nigripes* Kby. 47 specimens.  
*Bembidium versicolor* Lec. 24 specimens.